Generalization Strategies

Strategy	Description
Counting	Drawing a picture or constructing a model to represent the situation to count the desired attributes
Recursive	Building on the previous term or terms in the sequence to determine subsequent terms (Additive thinking)
Whole-object	Using a portion as a unit to construct a larger unit by multiplying. There may or may not be an appropriate adjustment for over-or-undercounting.
Guess-and-check	Guessing a rule without regard to why this rule might work. Usually this involves experimenting with various operations and numbers provided in the problem situation.
Contextual	Constructing an explicit rule that expresses the co-variation of two sets of data, based on information provided in the situation. An explicit rule can allow for the prediction of any term number in the pattern.

Justification Framework

Justification Level	Description
Level 0: No Justification	Responses do not address justification
Level 1: Appeal to external authority	Reference is made to the correctness stated by some other individual or reference material
Level 2: Empirical evidence	Justification is provided through the correctness of particular examples
Level 3: Generic example	Deductive justification is expressed for a particular instance.
Level 4: Deductive justification	Validity is given through a deductive argument that is independent of particular instances